

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

ATTORNEY DOCKET NO.:
38203-6082BSERIAL NO.:
10/775,718

INFORMATION DISCLOSURE STATEMENT

UNDER 37 CFR §1.56, §1.97, and §1.98

PTO-1449 FORM

Sheet 1 of 4

APPLICANTS: Smith et al

FILING DATE: 02/09/04

GROUP ART UNIT: Unknown 2876

U.S. PATENT DOCUMENTS

† EX'R INITIAL	*REF. #	PATENT NUMBER	DATE	NAME	U.S. CLASS/ SUBCLASS	FILING DATE (If appropriate)
KCK		4,757,207	07/12/88	Chappelow et al	250/491.1	3/3/87
KCK		4,861,148	08/29/89	Santo et al.	350/505	3/11/87
KCK		4,929,083	05/29/90	Brunner	356/123	3/20/89
KCK		5,124,927	06/23/92	Hopewell et al	250/491.1	3/2/90
KCK		5,262,257	11/16/93	Fukuda et al	250/492.2	1/11/93
KCK		5,285,236	02/08/94	Jain	355/53	9/30/92
KCK		5,438,413	08/01/95	Mazor et al.	356/363	3/3/93
KCK		5,444,538	08/22/95	Pellegrini	356/401	3/10/94
KCK		5,477,058	12/19/95	Sato	250/548	11/9/94
KCK		5,700,602	12/23/97	Dao et al	430/22	10/30/95
KCK		5,757,507	05/26/98	Ausschnitt et al.	356/401	11/24/95
KCK		5,805,290	09/08/98	Ausschnitt et al	256/401	5/2/96
KCK		5,824,441	10/20/98	Farrow et al	430/22	12/3/96
KCK		5,877,861	03/02/99	Ausschnitt et al.	356/401	11/14/97
KCK		5,953,128	09/14/99	Ausschnitt et al	250/548	8/28/97
KCK		6,023,338	02/08/00	Bareket	356/401	7/12/96
KCK		6,064,486	05/16/00	Chen et al	356/399	5/21/98
KCK		6,079,256	06/27/00	Bareket	73/105	12/7/98
KCK		6,130,750	10/10/00	Ausschnitt et al	356/401	8/28/97
KCK		6,137,578	10/24/00	Ausschnit	356/399	6/28/98
KCK		6,142,641	11/07/00	Cohen et al	359/731	6/18/98
KCK		6,143,621	11/07/00	Tzeng et al.	438/401	6/14/99
KCK		6,153,886	11/28/00	Hagiwara et al	250/548	9/28/99
KCK		6,163,366	12/19/00	Okamoto et al	355/53	11/12/97
KCK		6,204,912	03/20/01	Tsuchiya et al	355/53	5/8/97
KCK		6,218,200	04/17/01	Chen et al	356/399	7/14/00
KCK		6,417,929	07/09/02	Ausschnitt et al	056/634	11/20/00

EXAMINER'S SIGNATURE

Kumiko C. Royama

DATE CONSIDERED

11/9/04

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TITLE: METHOD AND APPARATUS FOR SELF-REFERENCED WAFER STAGE POSITIONAL ERROR MAPPING

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR §1.56, §1.97, and §1.98 PTO-1449 FORM Sheet 2 of 4	ATTORNEY DOCKET NO.: 38203-6082B	SERIAL NO.: 10/775,718
	APPLICANTS: Smith et al	
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FOREIGN PATENT DOCUMENTS					
† EX'R INITIAL	*REF. #				TRANSLATION (YES/NO)
			N/A	N/A	

OTHER DOCUMENTS		
† EX'R INITIAL	*REF. #	CITATION (Author, Article Title, Journal/Book Title, Date, Pertinent Pages, etc.)
KCK		Armitage Jr., J.D. and Kirk, J.P., "Analysis of overlay distortion patterns", <i>SPIE</i> , 921:207-222, (1988)
KCK		Biesterbos et al., "A new lens for submicron lithography and its consequences for wafer stepper design", <i>SPIE</i> , 633:34-43, (1986)
KCK		Bjorkholm et al., "Reduction imaging at 14 nm using multilayer-coated optics: printing of features smaller than 0.1 µm", <i>J. Vac. Sci. Technol.B.</i> , 8(6):1509-1543, (1990)
KCK		Bruning et al., "Optical Lithography – Thirty years and three orders of magnitude", <i>SPIE</i> , 3051:14-27, (1997)
KCK		Cote et al., "Micrascan™ III-performance of a third generation, catadioptric step and scan lithographic tool", <i>SPIE</i> , 3051:806-816, (1997)
KCK		DeJule, R., "Mix-and Match: A Necessary Choice", <i>Semiconductor International</i> , 23(2): 66-76, (Feb, 2000)
KCK		Dooly, T. and Yang, Y., "Stepper matching for optimum line performance", <i>SPIE</i> , 3051:426-432, (1997)
KCK		Goodwin, F. and Pellegrini, J.C., "Characterizing Overlay Registration of Concentric 5X and 1X Stepper Exposure Fields using Interfield Data", <i>SPIE</i> , 3050:407-417, (1997)
KCK		Goodwin, F., "Expanding capabilities in existing fabs with lithography tool-matching", <i>Solid State Technology</i> , 97-106, (June 2000)
KCK		Handbook of Microlithography, Micromachining, and Microfabrication, Book: Vol. 1, "Microlithography", Rai-Choudhury, P. (Ed.), SPIE Optical Engineering Press, SPIE, Bellingham, Washington, pages 417-418, (1997)
KCK		Hasan et al., "Automated Electrical Measurements of Registration Errors in Step-and-Repeat optical Lithography Systems", <i>IEEE Transactions on Electron Devices</i> , ED27(12):2304-2312, (1980)
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KCK		KLA 5105, "Linewidth and Misregistration System", KLA 5105 Product Specifications, <i>KLA Instruments Corporation</i> , 2 pages, (1995)
KCK		Kodama, K. and Matsubara, E., "Measuring system XY-5i", <i>SPIE</i> , 2439:144-155, (1995)

EXAMINER'S SIGNATURE <i>Kumiko C. Koyama</i>	DATE CONSIDERED 11/9/04
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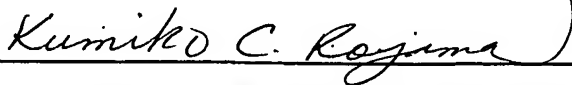
KUK	Leica LMS IPRO, "Fully automated mask and wafer metrology system", <i>Leica</i> , pamphlet pages 1-5.
KUK	Lin, B.J., "The Attenuated Phase-Shifting Mask", <i>Solid State Technology</i> , Special Series/Advanced Lithography, 35(1):43-47, (January 1992)
KUK	Martin <i>et al.</i> , "Measuring Fab Overlay Programs", <i>SPIE</i> , 3677:64-71(1999)
KUK	Mc Fadden, E.A. and Ausschnitt, C.P., "A Computer Aided Engineering Workstation For Registration Control", <i>SPIE</i> , 1087:255-266, (1989)
KUK	Mulkens <i>et al.</i> , "ArF Step And Scan Exposure System For 0.15 μ m Technology Node?", <i>SPIE</i> , 3679:506-521, (1999)
KUK	Müller <i>et al.</i> , "Large Area Fine Line Patterning By Scanning Projection Lithography", <i>MCM proceedings</i> , pgs. 100-104, (1994)
KUK	Newnam, B.E. and Viswanathan, V.K., "Development of XUV projection lithograph at 60-80 nm", <i>SPIE</i> , 1671:419-436, (1992)
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KUK	Numerical Recipes, "The Art of Scientific Computing", Press et al. (Eds.), Cambridge University Press, New York, pages 52-64 (1990).
KUK	Pellegrini, J.C., "Comparisons of Six Different Intrafield Control Paradigms in an Advanced Mix-and-Match Environment", <i>SPIE</i> , 3050:398-406, (1997)
KUK	Pellegrini <i>et al.</i> , "Super Sparse Overlay Sampling Plans: An Evaluation of Methods and Algorithms for Optimizing Overlay Quality Control and Metrology Tool Throughput", <i>SPIE</i> , 3677:72-82, (1999)
KUK	Preil, M.E. and McCormack, J.F.M., "A New Approach to Correlating Overlay and Yield", <i>SPIE</i> , 3677:208-216, (1999)
KUK	Proglar <i>et al.</i> , "Method to Budget and Optimize Total Device Overlay", <i>SPIE</i> , 3679:193-207, (1999)
KUK	Quaestor Q7, "Fully Automated Optical Metrology System for Advanced IC Production", Quaestor Q7 Product Specification, BIO -RAD, 2 pages
KUK	Raugh, M.R., "Error estimation for lattice methods of stage self-calibration", <i>SPIE</i> , 3050:614-625, (1997)
KUK	Starikov <i>et al.</i> , "Accuracy of overlay measurements: tool and mark asymmetry effects", <i>Optical Engineering</i> , 31(6):1298-1310, (1992)
KUK	Sullivan, N.T., "Semiconductor Pattern Overlay", <i>SPIE Critical Reviews of Optical Science and Technology</i> , CR52:160-188, (1994)
KUK	Takac <i>et al.</i> , "Self-calibration in two-dimensions: the experiment", <i>SPIE</i> , 2725:130-146, (1996)

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KCK	v.d. Brink et al., "Direct-referencing automatic two-points reticle-to-wafer alignment using a projection column servo system", <i>SPIE</i> , <u>633</u> :60-71, (1986)
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KCK	Yost, A. and Wu, W., "Lens matching and distortion testing in a multi-stepper, sub-micron environment", <i>SPIE</i> , <u>1087</u> :233-244, (1989)
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